

## INTERNATIONAL SEARCH REPORT

Inter application No  
PCT/EP 02/07967

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G01T1/29

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, INSPEC, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BELCARI N ET AL: "Measurement of photoelectron yield from scintillating fibres coupled to a YAP:Ce matrix" NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH, SECTION - A: ACCELERATORS, SPECTROMETERS, DETECTORS AND ASSOCIATED EQUIPMENT, NORTH-HOLLAND PUBLISHING COMPANY, AMSTERDAM, NL, vol. 461, no. 1-3, 1 April 2001 (2001-04-01), pages 413-415, XP004240261 ISSN: 0168-9002	1,2,4,5,8
A	The entire document	15,17

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

15 October 2003

Date of mailing of the international search report

29. 10. 2003

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 672 207 A (DERENZO STEPHEN E) 9 June 1987 (1987-06-09) abstract column 2, line 46 - line 54 column 3, line 10 - line 21 column 3, line 30 - line 38 figures ----	1-3
A	US 4 150 292 A (TER-POGOSSIAN MICHEL M) 17 April 1979 (1979-04-17) abstract column 11, line 27 -column 12, line 14 figures ----	1-3
A	US 4 709 382 A (SONES RICHARD A) 24 November 1987 (1987-11-24) abstract column 4, line 54 - line 69 column 8, line 38 - line 60 column 9, line 15 - line 62 figures ----	15
A	US 5 793 045 A (DIFILIPPO FRANK P. ET AL) 11 August 1998 (1998-08-11) abstract column 3, line 20 -column 5, line 59 ----	17,20
A	US 4 212 061 A (BENNETT MATTHEW C JR ET AL) 8 July 1980 (1980-07-08) abstract column 1, line 34 - line 48 column 3, line 66 -column 4, line 56 column 6, line 19 - line 44 figures -----	17

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 02/07967

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

As a result of the prior review under R. 40.2(e) PCT,  
no additional fees are to be refunded.

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
  
15-16, 17-20
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-14

A detector module for a Positron Emission Tomograph (PET) apparatus using a matrix of parallel scintillation crystals and position sensitive light detectors.

2. Claim : 15 16

A PET scanner with multi-rings of regularly and angularly spaced detector modules.

3. Claims: 17-19

A method for determining the coordinates of the point of interaction of gamma rays within a detector module.

4. Claims: 21-29

Constructional details of a vacuum enclosed Hybrid Photo Diode (HPD) and associated self-triggering electronic circuitry.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Internationa plication No  
PCT/EP 02/07967

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4672207	A	09-06-1987	NONE	
US 4150292	A	17-04-1979	NONE	
US 4709382	A	24-11-1987	CA 1239485 A1 DE 3584140 D1 EP 0182529 A2 JP 2515973 B2 JP 61143038 A	19-07-1988 24-10-1991 28-05-1986 10-07-1996 30-06-1986
US 5793045	A	11-08-1998	EP 0863410 A2 JP 11052059 A	09-09-1998 26-02-1999
US 4212061	A	08-07-1980	CA 1129563 A1 CA 1137233 A2 DE 2855159 A1 DE 2858268 A1 DE 2858269 A1 EP 0002540 A2 FR 2412856 A1 GB 2012518 A , B JP 2784372 B2 JP 6258441 A JP 3003196 B JP 59042470 A JP 1651200 C JP 3003197 B JP 59042471 A JP 1690099 C JP 3003195 B JP 54092386 A US 4281382 A US 4817038 A	10-08-1982 07-12-1982 28-06-1979 15-05-1985 09-05-1985 27-06-1979 20-07-1979 25-07-1979 06-08-1998 16-09-1994 17-01-1991 09-03-1984 30-03-1992 17-01-1991 09-03-1984 27-08-1992 17-01-1991 21-07-1979 28-07-1981 28-03-1989